

Acc. Nr.: AT0046539

Ref. Code: URC146

USSR

UDC 621.317.713

GRUZDEV, S.V., DUBOVY, N.D., KARPOV, R.G., OSOKIN, V.I.

"Digital SHF Power Meter"

Tsifrovoy izmeritel' SVCh moshchnosti (cf. English above),  
Leningrad, Izvestiya Vysshikh Uchebnykh Zavedeniy, Priboro-  
stroeniye, 1970, No 1, pp 30-33

Translation:

Considered is an SHF power meter with linear conversion  
of the measured quantity into pulse repetition frequency and  
automatic output of the measurement result in digital form.  
The basic analytic relations and experimental data are  
presented.

Reel/Frame  
19781800

USSR

UDC 621.317.528

GRUZDEV, S. V., DUBOVOY, N. D., KARPOV, R. G., OSOKIN, V. I., CHIBRIKOV, S. I.

"Superhigh-Frequency Power Meter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Iovannyye Znaki, No 17  
12 May 70, p 58, Patent No 270888, Filed 8 Dec 68

Translation: This Author's Certificate introduces a superhigh-frequency power meter containing a thermistor bridge, an amplifier, a controlled frequency generator and a measuring regulation circuit. In order to increase the measurement accuracy, the controlled frequency oscillation output and the reference oscillation output in the sensitivity regulating circuit are connected via dividers to the pulse sequencing switch, and the subtractor output is connected to the digital sensor for controlling the conversion voltage frequency and the division factor of the dividers.

1/1

USSR

UDC 621.317.744

GRUZDEV, S. V., DUBOVOY, N. D., KARPOV, R. G., OSOKIN, V. I., CHIBRIKOV, S. I.

"Pulse-Frequency Superhigh-Frequency Power Meter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,  
No 17, 12 May 70, p 56, Patent No 270887, Filed 8 Dec 68

Translation: This Author's Certificate introduces a pulse-frequency super-high-frequency power meter containing a bolometric bridge, a pulse amplifier, an amplitude detector, a generator with controlled frequency, an auxiliary generator and a subtracting circuit. In order to increase the sensitivity the output pulse repetition frequency divider of the controlled generator is connected to the feedback circuit of the bridge circuit.

1/1

USSR

UDC: 621.317.784

OSOKIN, V. I., DUBOVOY, N. D., KARPOV, R. G., GRUZDEV, S. V., CHIBRIKOV, S. I.

"An Automatic SHF Power Meter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 14, 1970, Author's Certificate No 268519, filed 18 Nov 68, p 44

Abstract: This author's certificate introduces an automatic SHF power meter with double comparison. The unit contains an automatic-balance thermistor bridge, an SHF disconnect and a power indication circuit. As a distinguishing feature of the patent, measurement precision is improved by connecting the rectifier input to the bridge output and connecting the rectifier output to one of the comparator inputs, the other comparator input being connected to the output of an integrator. The comparator output is connected to flip-flop inputs. The output of the saw-tooth voltage generator is connected to a thermistor and a meter pointer.

1/1



USSR

UDC 546.48'22:548:537.311.31

GALUSHKA, A. P., DAVIDYUK, G. YE., DUBOVOY, V. K., and KONOZENKO, I. D.,  
Institute of Nuclear Research of the Academy of Sciences Ukrainian SSR

"Investigation of Nonuniformity of Specific Electrical Conductivity of  
Single CdS Crystals"

Moscow, Neorganicheskiye Materialy, vol. 9, No 5, May 73, pp 750-754

Abstract: This article considers the nature of nonuniform distribution of the specific electrical conductivity of single CdS crystals and the effect of nonuniformity on the Hall mobility of electrons. Single CdS crystals, obtained by the method of zone sublimation, were used in the investigation. A nonuniform distribution of fast recombination s-centers is evident in single CdS crystals which leads to nonuniform distribution of the specific electrical conductivity over the length of the specimen. The mobility of conductors determined in such specimens from the data of Hall effect can be significantly different from that of actual Hall mobility  $\mu_x$ . In determining the mobility of conductors in single CdS crystals from the experimental data

1/2

USSR

GALUSHKA, A. P., et al, Neorganicheskiye Materialy, Vol. 9, No 5, May 73, pp 750-754

according to the Hall effect, it is always necessary to take into account the nonuniformity of distribution of the specific electrical conductivity in the specimen. In specimens with nonuniform distribution of the recombination centers over the entire length of the specimen the dependence of nonuniformities of the distribution of specific electrical conductivity and of  $\mu_3$  on the intensity of short exposure will be will be higher at high temperatures (200-350°K) than at lower ones. The lowering of temperature results in decreased nonuniformity.

2/2

- 40 -

USSR

UDC 581.198:632.951

CHKANIKOV, D. I., MAKEYEV, A. M., PAVLOVA, N. N., and DUBOVOY, V. P., All-Union Scientific Research Institute of Phytopathology, Bol'shiye Vyazemy Moscow Oblast

"N-(2,4-Dichlorophenoxyacetyl)-L-Glutamic Acid, A New Metabolite of 2,4-D"

Moscow, Fiziologiya Rasteniy, Vol 19, Vyp 2, Mar/Apr 72, pp 436-442

Abstract: A new metabolite, N-(2,4-dichlorophenoxyacetyl)-L-glutamic acid, was separated by paper chromatography along with N-(2,4-dichlorophenoxyacetyl)-L-aspartic acid from extracts of soya bean plants treated with 2,4-D-2-14C. These conjugates of 2,4-D had the same mobility during paper chromatography in different solvents (20 were used). They were separated by gas-liquid chromatography. Both of these compounds were identified by UV, IR, NMR, and mass spectra. The compounds underwent complete hydrolysis in 6 N HCl at 100° in 2 hr yielding 2,4-D and equimolar amounts of aspartic and glutamic acids. Amino acid derivatives of 2,4-D were accumulated mainly in the treated leaves of soya and, presumably, were not transferred into other organs. The amino acid derivatives of 2,4-D were absent in the phloem sieve tubes of aphids feeding on soya bean plants treated with 2,4-D. It is assumed that the production of amino acid derivatives is one of the ways in which the soya leaf tissues immobilize the 2,4-D. 1/1

- 30 -



Agriculture

USSR

UDC 581.13.04:632.95.024.4

CHKANIKOV, D. I., MAKEYEV, A. M., PAVLOVA, N. N., and DUBOVOY, V. P., All-Union Scientific Research Institute of Phytopathology, Bol'shiye Vyazemy, Moscow Oblast

"The Behavior of 2,4-D in Plants With Different Resistance to This Herbicide"

Moscow, Fiziologiya Rasteniy, Vol 18, No 6, Nov/Dec 71, pp 1,253-1,259

Abstract: In plants sensitive to 2,4-D (sunflower and mustard), the herbicide is quickly carried away from the leaves to which it is applied and accumulates in the growth tips and stalks, almost without being metabolized. In moderately sensitive plants (bean, soya, pea, coleus, beechwheat, and common lamb's-quarters), the herbicide is transported at a lower rate, and a portion of it is metabolized to low molecular-weight water-soluble or ether-soluble metabolites. In resistant plants (wheat, maize, plantain, lady's mantle, and strawberry), the herbicide remains in the leaves either in the initial, free form or conjugated with large molecules. Immobilization of the herbicide in the leaf tissue is one important mechanism of resistance, and this fixation can be achieved not only by conjugation but also by other means.

1/1

USSR

UDC: 621.375.13

DUBROVSKAYA, I. V.

"Use of Distributed R-C-NR Structures as the Elements of a Frequency-Dependent Feedback Circuit"

V sb. Mikroelektronika. Vyp. 1 (Microelectronics. No 1--collection of works), Moscow, Atomizdat, 1971, pp 79-87 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6D100)

Translation: A method is outlined for calculating two-stage amplifiers with distributed RC structures in common feedback circuits. The effectiveness of correcting the transient response of the amplifier by means of an RC structure as compared with conventional RC correction is analyzed. It is shown that the optimum RC structure is a combination of an exponentially decreasing structure in the signal delay circuit, and an exponentially increasing structure in the signal acceleration circuit. Bibliography of ten titles. H. S.

1/1

- 44 -

USSR

UDC 621.039.51.001.8

ARNOL'DOV, M. N., BOGATYREV, V. K., DUBOVSKIY, B. G., IVANOVSKIY, M. N.,  
KALENICH, V. N., KIR'YANOV, G. I., MILOVIDOVA, A. V., FROLOV, V. V.

"Activation Control of Oxygen in Circulating Sodium-Potassium Coolant Using  
a Neutron Generator"

Tr. VNII radiats. tekhn. (Works of the All-Union Scientific Research Institute of Radiation Engineering), 1972, No. 7, pp 137-144 (from RZh-50. Yadernyye reaktory, No 11, Nov 72, Abstract No 11.50.93)

Translation: The first stage in carrying out continuous control of oxygen in a circulating loop with an Na-K alloy and a mockup of a nuclear reactor circuit is described. The basis of the method is the familiar reaction for determining oxygen on the basis of  $N^{16}$  (the reaction  $O^{16}(n, p)N^{16}$ ). A small-scale neutron generator of the type NGI-5 with a flux of about  $5 \cdot 10^8$  neutron/sec was used for activation. This method for oxygen control on the basis of the  $N^{16}$  isotope is also applicable in the active loop of a nuclear reactor. 4 ill., 2 tables, 2 ref.

1/1

1/2 031 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--EXPONENTIAL DEPENDENCE OF SURFACE IMPEDANCE ON VARIABLE FIELD  
AMPLITUDE -U-  
AUTHOR--DUEGVSKIY, L.B. D  
COUNTRY OF INFO--USSR  
SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58,  
NR 6, PP 2110-2120  
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--MAXWELL EQUATION, METAL, MAGNETIC MOMENT, METAL CONDUCTIVITY,  
MAGNETIC FIELD, SURFACE ENERGY, SURFACE PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1998/0535

STEP NO--UR/C056/70/058/006/2110/2120

CIRC ACCESSION NO--AP0121207

UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0121207

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD IS INDICATED FOR SOLVING THE MAXWELL EQUATIONS FOR METALS; THE NONLINEAR CASE IS CONSIDERED WHEN  $\omega t$  SUBO IS LESS THAN 1 UNDER CONDITIONS OF A NORMAL SKIN EFFECT FOR AN ARBITRARY DEPENDENCE OF THE MAGNETIC MOMENT AND CONDUCTIVITY ON THE MAGNETIC FIELD STRENGTH. IT IS SHOWN THAT THE SURFACE IMPEDANCE EXPONENTIALLY DEPENDS ON THE VARIABLE FIELD AMPLITUDE AND IN SOME CASES THIS CAN BE OBSERVED EXPERIMENTALLY. FACILITY: MOSKOVSKIY GOS. UNIV. IM. M. V. LOMONOSOVA.

UNCLASSIFIED

Acc. Nr:

AP0043779

Ref. Code: UR 0056

PRIMARY SOURCE: Zhurnal Eksperimental'noy i Teoreticheskoy  
Fiziki, 1970, Vol 58, Nr 3, pp 845-877

EFFECT OF SPECULAR REFLECTION  
OF ELECTRONS ON SURFACE IMPEDANCE

Dubovskiy, L. B.

The impedance of a metal in a magnetic field parallel to the surface is considered under conditions of the anomalous skin effect. It is shown that the dependence of the impedance on  $H$  and  $\omega$  is appreciably affected by the specularity coefficient which can thus be determined. Allowance for specularity may thus lead to resonance effects.

REEL/FRAME  
19770187

1/2 025 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--DAVYDOV SPLITTING IN MIXED MOLECULAR CRYSTALS -U-

AUTHOR--(02)-DUBOVSKIY, O.A., KONOBAYEV, YU.V.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(2), 405-14

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--CRYSTAL, NAPHTHALENE, ISOTOPE, LIGHT POLARIZATION, EXCITON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/0453

STEP NO--UR/0181/70/012/002/0405/0414

CIRC ACCESSION NO--AP0107059

UNCLASSIFIED

2/2 025  
CIRC ACCESSION NO--AP0107059  
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--16OCT70

ABSTRACT. THE THEORY OF FRENKEL EXCITON STATES DEVELOPED RECENTLY IN TERMS OF THE FORMALISM OF GREEN FUNCTIONS FOR BINARY ISOTOPIC SOLID SOLNS. OF SUBSTITUTION WITH 1 MOL. IN THE UNIT CELL IS GENERALIZED FOR THE CASE OF 2 EXCITON BANDS IN A PURE CRYSTAL TO INVESTIGATE THE EVOLUTION OF DAVIDOV MULTIPLETS AND THE POLARIZATION RATIO OF LIGHT ABSORPTION BANDS IN MIXED MOL. SOLNS. OF THE TYPE NAPHTHALENE NAPHTHALENE D SUBS WHEN THE COMPN. OF THE SOLN. CHANGES. AN INTERPOLATION EXPRESSION WAS FOUND WHICH DESCRIBES THE POSITION AND THE SHAPE OF ABSORPTION PEAKS IN THE SOLID SOLN. FOR AN ARBITRARY COMPN. OF THE MIXT. THE THEORY IS COMPARED WITH EXPT.

UNCLASSIFIED



Acc. Nr:

**AP0036813**

Ref. Code: UR 0016

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, 1970, Nr 1, pp 39-43

CLINICAL AND EPIDEMIOLOGICAL INDICES OF THE EFFICACY OF TREATMENT OF ACUTE DYSENTERY BY DIFFERENTIAL METHOD

Dubovskiy, V. G.; Dubakina, L. N.

Differential (according to individual indications) antibiotic therapy of dysentery was carried out. It appeared that the duration of the course of treatment varied from 2 to 8 days ( $4.6 \pm 0.7$  on the average); variations in the periods of treatment were associated not with the severity of the course of the disease, but with individual physiological peculiarities of the human organism.

Repeated course of treatment proved to be necessary by clinical indications in 1.9% of the cases, and by epidemiological — in 11.2%. Acute carrier state was seen in 1.6% of the total number of patients. The number of chronic forms of dysentery fell from 23.5% in 1955—1956 (when the treatment was instituted for a prolonged period in two cycles) to 1.2—3.1% in 1961—1966 (when differential method was completely introduced). There were also noted biochemical and other changes pointing to a high therapeutic and epidemiological efficacy of the differential method.

L.N.  
6

REEL/FRA  
19721730

1/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--ON THE CONTENT OF CORTICOSTEROIDS IN CUTANEOUS SEBUM -U-  
AUTHOR--DUBOVYY, M.I. D  
COUNTRY OF INFO--USSR  
SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 5, PP 31-35  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--SKIN PHYSIOLOGY, CHROMATOGRAPHY, CORTICOSTEROIDS  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1998/0692 STEP NO--UR/0206/70/000/005/0031/0035  
CIRC ACCESSION NO--AP0121353  
UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70  
CIRC ACCESSION NO--AP0121353  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AS A RESULT OF CHEMICAL TREATMENT WITH 3,5,DINITROBENZOIDCHLORIDE AND SEPARATION ON CHROMATOGRAPHIC COLUMN THE UNSAPONIFIED SUBSTANCE OF CUTANEOUS SEBUM WAS FOUND TO CONTAIN 7 COMPOUNDS WHICH GAVE POSITIVE COLOR REACTIONS TYPICAL FOR STEROIDS. THE MAXIMUM LIGHT ABSORPTION FOR ETHANOL SOLUTIONS OF THE DISCOVERED SUBSTANCES WAS OBSERVED AT WAVE LENGTHS OF 230-270 AND 290-330 MMU. TWO OF THE SUBSTANCES BELONGED TO CORTICOSTEROID GROUP, 4 TO 17-KETOSTEROIDS AND 1 COMPOUND CONTAINED HYDROXYL GROUP IN C SUB3 WITH THE SIDE GROUP IN C SUB17 FOR WHICH THE MAXIMUM LIGHT ABSORPTION OF ETHANOL SOLUTION WAS OBSERVED AT WAVE LENGTHS OF 236 AND 237 MMU. AMONG CORTICOSTEROIDS ONE COMPOUND CONTAINED IN C SUB17 ALPHA KETOL, THE OTHER, DIHYDROOXYTON GROUPS. THE AUTHOR IDENTIFIED 11,DEOXY,17ALPHA,OXYCORTICOSTERON (0.1-0.3 MG PERCENT), ANDROSTERON (0.04-0.45 MG PERCENT), DEHYDROEPIANDROSTERON (0.1-0.4 MG PERCENT) AND, APPARENTLY, ANDROSTAN,3,17,DION (0.08-0.2 MG PERCENT). FACILITY: KAFEDRA KOZHNYKH BOLEZNEY I BIOKHIMII L'VOVSKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--THE EMPLOYMENT OF RADIOISOTOPES IN THE COMPLEX DIAGNOSIS OF TUMORS  
OF THE EYE AND ORBIT -U-  
AUTHOR--DUBOVYY, YE.D., PAKHOMOVA, A.I., PANFILOVA, G.V., GORSKIY, L.A.,  
SOKOLOV, V.N.  
COUNTRY OF INFO--USSR **D**  
SOURCE--MEDITSINSKAYA RADIOLOGIYA, 1970, VOL 15, NR 3, PP 30-34  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--DIAGNOSTIC METHODS, MEDICAL NUCLEAR APPLICATION, TUMOR, EYE,  
PHOSPHORUS ISOTOPE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1985/1690 STEP NO--UR/0241/70/015/003/0030/0034  
CIRC ACCESSION NO--AP0101745  
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--115070 .

2/2 020

CIRC ACCESSION NO--AP0101745  
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE AUTHORS EXAMINED 351 PATIENTS WITH TUMORS OF THE EYE AND ORBIT, OF THIS NUMBER 296 WERE OPERATED UPON. THE FIRST GROUP INCLUDED 174 PATIENTS WITH INTRACULAR TUMORS. THESE PATIENTS WERE EXAMINED WITH THE AID OF RADIOPHOSPHORUS. IN LOCALIZATION OF THE TUMOR ON THE CONJUNCTIVA AND SCLERA A COINCIDENCE OF THE RESULTS OF RADIOMETRIC INVESTIGATIONS WITH CLINICAL AND HISTOLOGICAL DATA WAS NOTED IN 90 PER CENT OF CASES, WHEREAS IN MALIGNANT MELANOMA OF THE VASCULAR MEMBRANE AND CILIARY BODY, IN 83 PERCENT AND IN MALIGNANT TUMORS OF THE IRIS, IN 71 PER CENT OF CASES. IN LOCALIZATION OF TUMORS IN THE POSTERIOR REGION OF THE EYE TRANSCONJUNCTIVAL RADIOPHOSPHORUS DIAGNOSIS WAS CARRIED OUT. THE SECOND GROUP CONSISTED OF 122 PATIENTS WITH TUMORS AND TUMOR LIKE DISEASES OF THE ORBIT AND ADJACENT REGIONS. THIS GROUP OF PATIENTS WAS EXAMINED WITH THE AID OF P PRIME32, I PRIME131, DIP AND I PRIME125. A COINCIDENCE OF DATA OF RADIOISOTOPE DIAGNOSIS WITH THE RESULTS OF CLINICAL AND HISTOLOGICAL INVESTIGATIONS FOR BENIGN TUMORS WAS 89.4 PER CENT, FOR MALIGNANT, 86.6 PER CENT OF CASES.

UNCLASSIFIED

UDC: 621.317.373.023

USSR

DUBINSKIY, Yu. I., DUBRAVINA, I. L.

"Phase Error of Matching When a Signal is Transmitted Through a Directional Coupler"

Elektron. tekhnika. Nauchno-tekhn. sb. Kontrol'no-izmerit. apparatura (Electronic Technology. Scientific and Technical Collection. Monitoring and Measuring Equipment), 1970, vyp. 2 (20), pp 21-26 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A326)

Translation: The authors consider phase measurement error -- the phase error of matching which arises when a signal passes through a directional coupler due to channel mismatch. A formula is derived for calculating the mismatch phase error. Resumé.

1/1

DUBRAVO, I.

Computer s/education

JPRS 55453  
16 March 1972

MACHINE ENTRANCE TESTING FOR HIGHER SCHOOLS

Article by I. Yonetskii, N. M. Kuznetsov, I. Dubravo, and N. Kromer. An Electronic Computer Gives Entrance Exams, *Vestnik Stalinskii*, Russian, No 1, January 1972, pp 69-74.

In his report at the 24th CPSU Congress, L. I. Brezhnev pointed out the importance and necessity of work in the area of changing the content of the teaching process with the aim of bringing it into accord with the level of scientific and technical progress.

The higher school obtains, creates and turns out an enormous amount of information. The effective processing of this information for obtaining sound conclusions is extremely difficult. This applies particularly to testing the knowledge of persons entering the institutions of higher learning and also testing the current progress of the students. For this reason, electronic computers are beginning to come to the aid of the higher school.

Beginning in 1969, the Moscow Regional Institute of Higher School Graduates (MRSI) has been using the MBR-1000 (second-year) ship of the Institute's system which was worked out under the leadership of the Institute's director, N. A. Korolev. The task of this system is to process information on the course of the received applications, admission, the results of entrance exams, and so forth. In 1970, this system was supplemented by the Analytic Language Interpreter, the basic function of which was to process on a MBR-1000 computer data about the secondary school graduates entering the institution of higher learning in terms of the information of their personal file and the grades received by them in the entrance exams.

The problem of raising the quality of instruction and the effectiveness of the pedagogical process becomes more and more urgent every year. The sharp increase in the amount of professional knowledge and the necessity of assimilating this

- 1 -  
[X - USSR - N]

USSR

UDC: 538.245

ZUYEV, V. Ye., LEVIN, B. Ye., STANISHEVSKAYA, S. P., DUBROSSARSKAYA, V. Ya.

"A Method of Reducing Dielectric Losses in SHF Ferrites"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,  
No 4, Feb 71, Author's Certificate No 292195, Division H, filed 31 Jul 69,  
published 6 Jan 71, p 140

Translation: This Author's Certificate introduces a method of reducing dielectric losses of SHF ferrites made by hot pressing. As a distinguishing feature of the patent, the procedure is designed for oxidizing the ferrite during pressing, and for simplifying technology. Materials which dissociate at the hot pressing temperature with the release of oxygen are added to the initial charge.

1/1

- 50 -



USSR

DUBROV, A., Candidate of Biological Sciences, Moscow

"Contemporary Heliobiology"

Moscow, Nauka i Zhizn', No 9, Sep 70, pp 97-103

Abstract: Links between the sun and the earth, the effect of solar activity and environmental factors on living organisms, the physical and biological mechanisms which determine the effect of these factors on life on earth are discussed. Numerous data indicate the close relationship between solar activity and the functional activities of living organisms on earth. N. A. Schults, a physician-hematologist and Candidate of Medical Sciences in Sochi, has established that a close relationship exists between changes in solar activity and changes in hemopoiesis and homeostasis. Heliobiological studies conducted under the guidance of Doctor of Biological Sciences A. T. Platonova in Irkutsk have indicated the high sensitivity of the blood coagulation system to solar flares. At heliobiological conferences held in the USSR and abroad between 1950 and 1970, numerous confirmations of the effect of solar activity on various manifestations of life on earth have been presented (e.g., multiplication of bacteria, viruses, and other living organisms,

1/3

USSR

DUBROV, A., Nauka i Zhizn', No 9, Sep 70, pp 97-103

sensitivity of the nervous system, development of conditioned reflexes in man and animals, tree growth, biological activity in bodies of water, etc. Other experimental data have established that the effects of solar activity on living organisms on earth are not limited to annual and monthly cycles, but extend also to the rhythmic activities of the organism within a 24-hour period. Radiobiologists have long noted the changes of animal sensitivity to ionizing radiation within a 24-hour period. Scientists have also noted that the efficacy of drugs administered to a patient varies depending on the time of the day they were administered; this is particularly true of insulin. In his book "Times of the Year, the Organism, and Therapy" (Vladivostok, 1968), P. O. Golikov points out that the inotropic effect of ethylenediamines is positive in the summer and negative in the winter, and that the effectiveness of other drugs also varies with the changes in the seasons of the year. Nothing is yet known about the mechanisms of the sun's action on the earth. Scientists have found it advisable to correlate their data with the data of the Wolf Index of Sunspots. Consideration must

2/3

USSR

DUBROV, A.; Nauka i Zhizn', No 9, Sep 70, pp 97-103

also be given to the fact that solar activity may be influenced by such physical factors as corpuscular radiation, particulate radiation, and gravitational, magnetic, and electric fields, and that before reaching the earth the energy particles from the sun pass through the magnetosphere, ionosphere, and atmosphere.

3/3

USSR

UDC 551.586+613.2:551.5

DUBROV, A. P.

"Certain Aspects of the Geobiological Causality of Rhythm in the Elements of the Earth's Biosphere"

Dokl. na Yezhegod. Chteniyakh Pamyati L. S. Berga [Reports from the Annual Lectures in Memory of L. S. Berg], 15-16, 1967-1971, Leningrad, Nauka Publishing House, 1973, pp 233-251 (from Referativnyy Zhurnal -- Geofizika, No 9, 1973, Abstract No 9B355)

Translation: This is a survey article which illustrates the importance of studying the universal factors in the environment which influence life in the biosphere. Stress is laid on the role of the geomagnetic field in connection with its significance for the geophysical, chemical, physico-chemical, and biological processes in the biosphere. Results are given from experimental research on the geomagnetic orientation of plants and animals and their vital activity in hypomagnetic conditions and in areas of geomagnetic anomalies. Experiments under factor-static conditions and in the area of the influence of manmade fields are analyzed. Data on a statistical analysis of the effect of geomagnetic disturbances on medical, genetic, and physiological characteristics of different objects  
1/2

USSR

DUBROV, A. P., Dokl. na Yezhegod. Chteniyakh Pamyati L. s. Berga, 15-16, 1967-1971, Leningrad, Nauka Publishing House, 1973, pp 233-251

are synthesized. Several hypotheses on the general biological plane are advanced; they devote an important part to the little-studied heliobiological links through geomagnetic activity. The human need for a constant geomagnetic field within definite parameters raises the problem of simulating and considering this factor during space flight. 98 bibliographic references.

(abstract by G. Gortinskiy)

2/2

- 10 -

USSR

DUBROV, A. AP.

"Some Aspects of the Heliobiological Condition of Rhythm in Elements of the Earth's Biosphere"

Doklady na Yezhegodnykh Chteniyakh Pamyati L. S. Berg, 15-19 (Papers at the Annual Readings in Memory of L. S. Berg, 15-19), Leningrad, "Nauka," 1973, pp 233-251 (from Referativnyy Zhurnal, Astronomiya, No 10, 1973, Abstract No 10.51.405)

Translation: Some aspects of the heliomagnetic condition of the rate at which processes take place in the biosphere are examined. A vast amount of literature bearing on discussions of this problem, and indicating the role of solar activity on vital activities in the Earth's biosphere is cited. An attempt is made to prove that the heliomagnetic hypothesis is the primary cause of heliobiological bonds.

1/1

UNCLASSIFIED

SECTION III: 50: Selected Personal Names  
FACULTY

1959-99  
SEPT 71

Name: Institute of Biophysics, Pushchino  
Description:

(U) During this quarterly reporting period, 25 new articles were identified from the Institute of Biophysics, Pushchino. On the basis of these articles, it was possible to identify 32 new personalities with the Institute. These personalities, the subjects of the articles, and the dates are given below:

below:

<u>Allyeva, S. A.</u>	1971 (24)
<u>Apkayeva, G. F.</u>	1970 (19)
<u>Artyova, D. F.</u>	1971 (30)
<u>Azhip, Ya. I.</u>	1969 (37)
<u>Bragadze, I. F.</u>	1970 (35)
<u>Burel, Ye. P.</u>	1970 (33)
<u>Dmitriyeva, I. I.</u>	1970 (32)
<u>Dmitriyeva, V. A.</u>	1969 (40)
<u>Donarova, O. P.</u>	1970 (39)
<u>Dubrov, A. P.</u>	1971 (41)
<u>Gabulova, N. A.</u>	1971 (42)
<u>Ganasi, Ye. E.</u>	1970 (38)
<u>Ivkova, N. N.</u>	1971 (43)
<u>Kasatkina, V. S.</u>	1971 (36)
<u>Khokhlova, G. K.</u>	1971 (44)
<u>Kislov, A. N.</u>	1970 (45)
<u>Klyagina, V. P.</u>	1970 (46)
<u>Korol, B. A.</u>	1971 (44)
<u>Koshelova, G. N.</u>	1971 (41)

6  
ORIGINAL ACQUISITION

<u>Puzina, S. V.</u>	cell culture	1970 (47)
<u>Katkovich, D. S.</u>	lactate dehydrogenase	1971 (48)
<u>Medvedeva, I. F.</u>	radiation effect	1971 (46)
<u>Peshkova, L. V.</u>	phosphorylation	1971 (49)
<u>Pronevich, L. A.</u>	antibiotic	1970 (50)
<u>Rodionova, M. A.</u>	mitochondrion	1971 (51)
<u>Shchipakin, V. N.</u>	phosphorylation	1971 (49)
<u>Spobeyev, Ye. N.</u>	radiation/vibration	1970 (52)
<u>Khuykova, V. A.</u>	radiation effect	1970 (35)
<u>Tsvetkov, V. D.</u>	blood plasma	1969 (40)
<u>Martikhina, N. V.</u>	lactate dehydrogenase	1971 (48)
<u>Valenichuk, M. M.</u>	radiation effect	1970 (53)
<u>Zayatskin, A. A.</u>	muscle physiology	1971 (42)

Dubrov and Koshcheva (41) are associated with the laboratory of Cu1 Biophysics at the Institute. Reference 52 above is of special interest since it presents an investigation of combined stresses, i.e., radiation and vibration. In addition to the above articles, five of the twenty-five (56-58) were authored by persons already identified with the Institute of Biophysics, Tushchino. Reference 55 associates the authors of the article, L. V. Stozhenikina, V. L. Miguishina, and A. M. Kuzin, with the Department of Radiobiology at the Institute.

UNCLASSIFIED



USSR

UDC 581.1.03

DUBROV, A. P., Institute of General Genetics, Academy of Sciences USSR, Moscow

"Effect of a Geomagnetic Field on Physiological Processes in Plants"

Moscow, Fiziologiya Rasteniy, Vol 17, No 4, Jul/Aug 70, pp 830-842

Abstract: Geomagnetic fields appear to exert a major influence on a great variety of physiological processes in plants (e.g., circadian rhythms, growth and development, seasonal changes, etc.). The physiological homeostasis of plants, like that of animals, is dependent on the state of and fluctuations in natural magnetic and electrical fields. It is conjectured that these fields exert their influence by altering the permeability of the biological membranes that are the basis of physiological homeostasis. The statistical evidence cited is considered to be indirect because it was obtained not as a result of direct experimentation, but by comparing the periodicity of physiological processes with shifts in geomagnetic fields over a specific period of time in areas where other investigators were conducting experiments on absorption and secretion of plant roots, respiration of tobacco leaves, water-retention capacity of pine trees, and seasonal shifts in the concentration of cell sap in citrus leaves. Only those published reports are used, however, in which the authors specify the exact time (hour, day, month, year) and place of the investigation.

1/1

1/2 029 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--CERMET DENSIFYING MATERIAL -U-  
AUTHOR--(03)-FEDORCHENKO, I.M., KAZANTSEVA, N.A., DUBROV, G.L.  
COUNTRY OF INFO--USSR  
SOURCE--U.S.S.R. 263,887  
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,  
DATE PUBLISHED--10FEB70  
SUBJECT AREAS--MATERIALS, CHEMISTRY  
TOPIC TAGS--CHEMICAL PATENT, CHEMICAL COMPOSITION, CERMET, COPPER,  
NITRIDE, BORON COMPOUND, NICKEL  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3004/1817 STEP NO--UR/C482/70/000/000/0000/0000  
CIRC ACCESSION NO--AA0132082

2/2 029 UNCLASSIFIED PROCESSING DATE--20NOV70  
CIRC ACCESSION NO--AA0132082  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A CERMET CONSOLIDATING MATERIAL HAS  
THE FOLLOWING COMPN.: CU 21.7-28.1, B NITRIDE 3.0-15.0 WT. PERCENT, AND  
NI THE REMAINDER. MCCL.

UNCLASSIFIED

USSR

UDC 669.14:669.189

DUBROV, N. F., KORROL', V. V., TAT'YANCHSHIKOV, A. G., and  
SOSIPATROV, V. T., Ural Scientific Research Institute of Ferrous  
Metals

"Rimmed Steel With Reduced Content of Manganese"

Moscow, Izvestiya Vysshikh Uchbenykh Zavedeniy -- Chernaya  
Metallurgiya, No 12, 1970, pp 64-66

Abstract: The possibility is shown of reducing the manganese  
content in rimmed steel to 22% during high-speed casting  
into large ingots. Casting and rimming of steel in ingot  
molds proceed normally. After rolling, ingots GOST require-  
ments.

1/1

USSR

UDC 621.318.2

GERMAN, YU. M., DUBROV, N. F., and GLOTOVA, L. S., UralNICHM [expansion unknown]

"Effect of Texture on the Change of Magnetic Properties of Alloy 7913"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 29, No 5, May 70, pp 963-967

Abstract: A study was made of the dependence of magnetic characteristics of 0.1- and 0.35-mm-thick strip on the degree of finite cold deformation. It is shown that direct cold strip rolling from a thickness of 6-3 mm to 0.35 or 0.1 mm and subsequent vacuum annealing at 1150° for a period of 4 hrs leads to an increase in magnetic permeability<sub>max</sub> and magnetic permeability<sub>0</sub> up to ~20% as compared to strips which had undergone intermediate annealing. The improvement of magnetic properties was observed only during the use of protective coatings of the pure magnesium type which do not impede the development of crystalline texture.

1/1

Physical Properties

USSR

UDC: 669-12.017

DUBROV, N. F., and GERTMAN, YU. M.

"Influence of Annealing Temperature on Texture and Magnetic Properties of 50N and 79 NM Permalloy Alloys"

Izv. VUZ, Chernaya Metallurgiya, No 6, 1970, pp 112-116

Abstract: The best cubic texture in 97-98.5% deformed strips of 50N and 79NM alloys annealed at 1000-1300° C was produced with  $t_{ann} = 1100-1150^{\circ} \text{C}$ . As  $t_{ann}$  is increased to 1200° C and more, secondary recrystallization occurs in the strips with grains of different orientations and the cubic texture becomes poor. The highest magnetic characteristics ( $\mu_{max}$ ,  $B_r$ ) in the magnetically anisotropic alloys 50N and 79NM were produced for specimens with the best cubic structure. The highest values of maximum permeability, 500,000 and 90,000 gs/oe in 79NM and 50N alloys, respectively, were produced after four hours' annealing at 1150 and 1200° C, respectively. In low-textured strips deformed by 60% before annealing, lower values of  $\mu_{max}$  and residual magnetism were produced than in the textured strips. Five illustrations; 12 biblio. refs.

1/1

USSR

UDC: 8.74

DUBROV, Ya. A.

"Algebras of Functions and Their Use in Systems Theory. I"

Kiev, Obshch. teoriya sistem--sbornik (General Theory of Systems--collection of works), 1972, pp 3-14 (from RZh-Matematika, No 10, Oct 73, abstract No 10V795 by S. Berkovich)

Translation: The job of systems theory is to study the abstract (with accuracy up to isomorphism) properties of different systems (formal, biological, economic, etc.): i. e., the properties which are independent of the nature of the elements comprising the system. Previous papers by this author have examined questions of constructing a systems algebra whose operations constitute a certain mathematical description of the possibilities of system connections. The algebra of systems in the structural-functional theory generates algebras of structures and algebras of functions. This paper examines algebras of functions for oriented systems with discrete structures. The first part of the paper relates to the algebra of single-place functions.

1/1

USSR

UDC 577.4

DUBROV, YA. A.

"Structure of the Algebra of Systems Functions"

V sb. Metody i modeli upr. (Control Methods and Models--collection of works),  
vyp. 1, Riga, 1971, pp 3-3 (from RZh-Kibernetika, No 12, Dec 72, Abstract No  
12V276)

No abstract

1/1



USSR

UDC: 8.74

DUBROV, Ya. A.

"Axiomatization of the Algebra of System Actions"

Prom. Kibernetika [Industrial Cybernetics--Collection of Works], Kiev, 1971, pp 81-85 (Translated from Referativnyy Zhurnal Kibernetika, No 11, 1972, Abstract No 11V605, by V. Mikheyev)

Translation: The algebra of systems constructed on the basis of the concept of action (interaction) is analyzed. A definition of a Salomaa algebraic system is presented. It is noted that the algebra of actions can be used in designing methods of decomposition of complex systems.

1/1

USSR

UDC 51.621.391

DUBROV, Ya. A.

"The Algebra of Abstract Systems"

Tekhn. Kibernetika. Vyp. 7 [Engineering Cybernetics, No. 7 -- Collection of Works]  
Kiev, 1970, pp 5-17 (Translated from Referativnyy Zhurnal Kibernetika, No. 4,  
April, 1971, Abstract No. 4 V447 by G. Blokhina).

Translation: An attempt is made to construct an algebra of abstract systems.  
For this purpose, a definition of a system is used which, as the author notes,  
allows operations to be constructed in systems which are generalizations of pos-  
sible methods of connection of systems.

1/1

DUBROV, Ya. G.

MEDICINE

26 Feb 71

20

FPD:SOVIET SCIENCE

V. AWARDS, CONTESTS, APPOINTMENTS, AND PERSONALITIES

12. USSR

"Ya. G. Dubrov"

Moscow, Meditsinskaya Gazeta, 20 Oct 70, p 1

Translation: By decree of the Presidium of the Supreme Soviet RSFSR for service in medical science and preparing scientific cadres. Prof Ya. G. Dubrov, Doctor of Medical Sciences and leader of a division of the Moscow Oblast Scientific Research Clinical Institute imeni M. P. Vladimirskiy, has been awarded the title Honored Scientist RSFSR.

Acc. Nr: APC054300

Ref. Code: UR 9115

PRIMARY SOURCE: Ortopediya, Travmatologiya i Protezirovaniye,  
1970, Nr 3 , pp 30-34

**DATA OF ARTERIOGRAPHY IN PRIMARY HEALING OF OBLIQUE-SPIRAL  
DIAPHYSARY FRACTURE**

Dubrov, Ya. G.; Onopriyenko, G. A.

The dynamics of changes of the arterial network of the extremity and damaged segment in primary healing of the oblique-spiral fracture of the tibial diaphysis has been studied in 30 experiments on adult dogs. As a rule, characteristic of this type of fracture was retention of the basic blood flow along the intraosseous network of the injured bone. In response to fracture, a hypervascularization of the extremity ensued at the expense of expansion of the lumen of functioning arterial vessels from the magistral trunks up to precapillaries, as well as opening of many reserve vessels. The extremital hypervascularization observed from the first day after fracture tended to remain at maximum level for a period from 1 to 4 weeks. Normalization of the vascular net of the extremity as a whole ensued within 6 weeks. Restoration of the macroscopic picture of the tibial arterial network was observed 2 months after fracture.

MX

REEL/FRA  
19831438

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1/2 013 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--MATHEMATICAL PLANNING DURING THE EPOXIDATION OF UNSATURATED  
COMPOUNDS USING UREA PEROXIDE TO OBTAIN THE MAXIMUM EPOXY NUMBER -U-  
AUTHOR--(05)-MALINOVSKIY, M.S., DUBROV, YU.I., VEDENOV, G.N., KARTSYNEL,  
M.B., SKRODSKAYA, T.S. D  
COUNTRY OF INFO--USSR  
SOURCE--LAKOKRASOCH. MATER. IKH PRIMEN. 1970, (2), 29-31  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY, MATERIALS  
TOPIC TAGS--UREA DERIVATIVE, PEROXIDE, PHTHALIC ANHYDRIDE, ETHANOL,  
EPOXIDE, VEGETABLE OIL  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY FICHE NO----FD70/605019/808 STEP NO--UR/0303/70/000/002/0029/0031  
CIRC ACCESSION NO--AP0140903  
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140903

ABSTRACT/EXTRACT--(U) GP-0-


ABSTRACT. A REGRESSIVE EQUATION THAT OFFERED

A MEANS FOR DETG. THE OPTIMUM EPOXIDN. CONDITIONS OF VEGETABLE OILS WAS

DERIVED. OPTIMUM AMTS. OF UREA PEROXIDE, PHTHALIC ANHYDRIDE, AND ETOH

PER DOUBLE BOND WERE 1.273, 1.213, AND 0.347 MOLES RESP.

UNCLASSIFIED

1/2 035 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--EFFECT OF VARIOUS DOSES OF GAMMA IRRADIATION ON THE CORTICOSTERONE  
LEVEL IN RAT PLASMA -U-  
AUTHOR--(02)--MOROZ, B.B., DUBROVIN, A.D.   
CCOUNTRY OF INFO--USSR  
SOURCE--RADIOBIOLOGIYA 1970, 10(1), 152  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--GAMMA IRRADIATION, RADIATION BIOLOGIC EFFECT, RAT, RADIATION  
DOSAGE, BLOOD PLASMA, CORTICOSTEROID  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1998/0454 STEP NO--UR/0205/70/010/001/0152/0152  
CIRC ACCESSION NO--AP0121128  
UNCLASSIFIED

2/2 035

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121128

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. GAMMA IRRADIATION OF RATS WITH 900, 700, OR 430 R (30 DAY LD SUB100, LD SUB50, AND LD SUB25, RESP.) INCREASED PLASMA CORTICOSTERONE (I) LEVELS 2 FOLD. AFTER IRRADN. WITH 900 R, THE I LEVEL INCREASED WITHIN 1 HR AND AGAIN ON THE 3RD DAY; WITH 700R, WITHIN 3 HR, AND ON THE 9TH DAY; AND WITH 430 R, WITHIN 6 HR, AND ON THE 14TH DAY POSTIRRADN. THE MAGNITUDE OF THE 1ST INCREASE WAS INDEPENDENT OF THE IRRADN. DOSE, WHILE THE SECONDARY INCREASE WAS INVERSELY PROPORTIONAL TO THE IRRADN. DOSE. FACILITY: INST. BIOFIZ., MOSCOW, USSR.

UNCLASSIFIED



Steels

USSR

UDC 669.187.2

KONCOVALOV, K. N., DUBROVIN, A. K., ROSTOVTSSEV, A. N., KISELEV, I. A., and  
PASHCHENKO, V. YE., Kuznets Metallurgical Combine and Novokusnets State  
Pedagogical Institute

"Melting Stainless Steel (O)Kh18N10T With Additions of Boron and Silico-  
calcium"

Moscow, Stal', No 11, Nov 73, pp 1000-1011

Abstract: In the melting of Okh18N10T and Kh18N10T steels, the addition of  
silicocalcium (1 kg/t) and microquantities of ferroboral (0.2 kg/t) signifi-  
cantly improves the steel ductility at 1000-1050° C. Owing to improvement of  
the surface quality of slabs and sheet, it was possible to reduce nickel  
consumption by 2 kg/t and metal losses from the slab surface by 9 kg/t.  
Results are presented from laboratory sampling of different additions of boron  
(0.002-0.007% calculated) in 32-kg melts in an induction furnace. Results  
are also presented for a large number of heats in 40-ton electric furnaces  
at the Kuznets Metallurgical Combine. One figure, two tables, five biblio-  
graphic references.

1/1

USSR

UDC: 536.46+662.215.3

DUBROVIN, A. S., SLEPOVA, L. V., KUZNETSOV, V. L.

"Influence of Density of Aluminothermic Compounds on Their Combustion"

Novosibirsk, Fizika Goreniya i Vzryva, No. 6, March 1970, pp 64-71

Abstract: The combustion rate was studied as a function of density in charges of aluminothermic mixtures of the oxides of chromium and iron. The maximum combustion temperature was calculated on the basis of the condition of complete reduction of the oxides and absence of thermal losses during the process. The density of the compositions was changed by pressing the charges in magnesite crucibles. The combustion of compositions with aluminum grain sizes varying from 1.0 to  $<0.16$  mm were studied. Iron ore was used with a grain size of  $<0.6$  mm (averaging 0.08 mm). The results indicated a significant increase in heat conductivity of compositions with increasing density. Heat conductivity also increased when aluminum powder was added. The principal forms of heat transfer for the composition studied are conduct heat transfer and radiation.

1/1

1/2 018 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--CALCIUM CHROMATE PRODUCTION -U-  
AUTHOR--(05)-TEPLYAKOV, B.V., DUBROVIN, A.S., SLEPOVA, L.V., GREKOV, S.D.,  
KUZNETSON, V.L.  
COUNTRY OF INFO--USSR  
SOURCE--U.S.S.R. 264,379  
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZITSY, TOVARNYE ZNAKI 1970, 47(9)  
DATE PUBLISHED--03MAR70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--CALCIUM COMPOUND, CHROMATE, CHEMICAL PATENT, CHEMICAL  
PRODUCTION, METALLURGIC RESEARCH FACILITY  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3001/1449 STEP NO--UR/0482/70/000/000/0000/0000  
CIRC ACCESSION NO--AA0126980  
UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AA0126980

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CA CHROMATE IS PREPD. BY 1ST  
PURIFYING A SOLN. OF NA DICHROMATE WITH CACRO SUB4, CACL SUB2, OR THEIR  
MIXT. IN A QUANTITY 100-200PERCENT OF THAT THEORETICALLY NECESSARY TO  
PPT. CASO SUB4. THE SOLN. OF NA DICHROMATE AFTER SEPN. OF THE PPTD.  
CASO SUB4 IS ACIDIFIED WITH CRO SUB3 OR HCL UNTIL THE SOLN. PH IS  
0.0-1.0. THE FILTRATE IS TREATED 1ST BY HEATING WITH MILK OF LIME UNTIL  
65-80PERCENT PPTN. OF CRO SUB4, AND AFTER SEPN. OF THE CACRO SUB4  
PPT., WITH CACL SUB2. FACILITY: CHELYABINSKIY  
NAUCHNO-ISSLEDOVATEL'SKIY INSTITUT METALLURGII.

UNCLASSIFIED

USSR

UDC 546.791.4.221

DUNAYEVA, K. M., DUBROVIN, A. V., KOVAL'CHUK, V. Yu., and IPPOLITOVA, Ye. A.

"Study of the Oxidation Kinetics of Uranium Oxysulfide"

Leningrad, Radiokhimiya, Vol 15, No 6, 1973, pp 869-870

Abstract: The area of the specific surface of starting uranium oxysulfide sample has a definite effect on the oxidation rate constant indicating that the oxidation process takes place on active centers, the number of which increases with increasing specific surface. The apparent activation energy is almost independent of the specific surface. In respect to the oxygen pressure, it was found that above 0.206 atm the reaction is independent of the pressure. The oxidation process may be viewed as one being limited by the diffusion of oxygen through the layer of the reaction product.

1/1

- 65 -

Acc. Nr.: AP 0041156

Ref. Code: UR 0121

USSR

UDC 621.914.22.025.7

KONDRAT'YEV, A. B., DUBROVIN, I. F.

"The Machining of Titanium Alloys with Hard-Alloy End Milling Cutters"

Moscow, Stanki i Instrument, No 1, 1970, pp 35-36

Abstract: An account is given of the research carried out by the Voronezh Polytechnical Institute jointly with the All-Union Scientific Research Institute of Hard Alloys on the possibility of using one-piece hard-alloy end milling cutters with a diameter of 6.12 mm in the machining of titanium alloys.

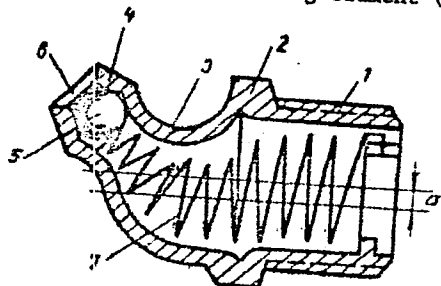
Reel/Frame  
19750939

AA0101167

Soviet Inventions Illustrated. Section III Mechanical and General,  
Derwent, 1-70

UR 0482

241162 ANGULAR PRESSURE LUBRICATOR contains an intermediate pipe bend and a straight oil can with a working element (4) the working



element has a ball (5) and a spring (7). In order to simplify the structure and to retain the set dimensions the lubricator is made in the form of one non-detachable

stamped body (1) with a working element which is situated on the neck (3) of the body. The neck is displaced in relation to the body's longitudinal axis and is bent in the direction which is opposite to the displacement. 5.4.68. as 1233454/25-8, GUEROVIN, L.N. and MATVEEV, N.I. (14.8.69) Bul. 13/1.4.59. Class 47e, Int. Cl. F 16n.

19850802

AA0101167

AUTHORS: Dubrovin, L. N.; Matveyev, N. I.

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19850803



1/2 010  
TITLE--WHEN THE SIREN SOUNDS -U- UNCLASSIFIED  
PROCESSING DATE--16OCT70  
AUTHOR--DUBROVIN, M.  
COUNTRY OF INFO--USSR  
SOURCE--SOVETSKAYA BELORUSSIYA, JULY 4, 1970, P 4, CULS 1-3  
DATE PUBLISHED--04JUL70  
SUBJECT AREAS--MILITARY SCIENCES  
TOPIC TAGS--CIVIL DEFENSE TRAINING; MOTION PICTURE FILM  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1993/0080 STEP NO--UR/9016/70/000/000/0004/0004  
CIRC ACCESSION NO--AN0113058  
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AN0113058

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHOR WAS SHOWN A MOVIE  
DEPICTING A CIVIL DEFENSE DRILL AT THE MINSK PLANT OF AUTOMATIC LINES.  
THE FILM WAS DEMONSTRATED BY A. T. GOLOVATYY, CHIEF OF STAFF OF CIVIL  
DEFENSE AT THE PLANT. FACILITY: CIVIL DEFENSE HEADQUARTERS OF  
THE BELORUSSIAN REPUBLIC.

UNCLASSIFIED

USSR

UDC 591.58:595.7

KOMAROVA, G. F., DUBROVIN, N. N. (Lenin Moscow State Pedagogical Institute)

"Comparative Study of the Acoustic Signals of Two Sibling Species of Grasshoppers, *Cherthippus dorsatus* Zett. and *Ch. dichrous* Ev. (Orthoptera, Acrididae)

Zhurnal Obshchei Biologii, 1973, Vol 34, No 4, pp 571-574

Abstract: Comparison of the male calling songs indicated a considerable difference in the structure and duration of the sound sequences in the two subject species, and suggested that these should be separate species. For example, the call of *Ch. dorsatus* lasted 15-30 sec and consisted of 7-13 transmissions, repeated after an interval comparable with the length, with a frequency of about 0.4 per second. That of *Ch. dichrous* lasted 0.6-12 sec and consisted usually of 1 to 3 transmissions, followed by a minute or more of silence. The precopulation signals were continuously repeated transmissions, up to 200 and from 30 to 70, respectively. Oscillographic analysis showed the calling signal of *Ch. dorsatus* to consist of two parts, the length of the first being greater than that of the second; that of *Ch. dichrous* sharply increases at first and sharply drops at the end.

1/1

- 6 -

USSR

UDC 517.933

BOYCHUK, L. M., DUBROVIN, O. F.

"Polynomial (Finite-Difference) Description of Nonlinear Dynamic Objects With Incomplete Information"

V sb. Tekhn. kibernetika. Vyp. 2 (Technical Cybernetics. No. 2 -- Collection of Works), Kiev, 1970, pp 43-52 (from RZh-Matematika, No 4, Apr 71, Abstract No 4B323)

Translation: A system with the control

$$x^{(n)}(t) = f(x(t), u(t), \lambda(t)), \quad (1)$$

is considered, where  $x(t) \in C^{(n)}[t; T]$  is the control output,  $u(t)$  is the input (control),  $\lambda(t)$  are uncontrolled perturbations. The function  $f$  is not completely defined analytically but it is assumed that it is possible to represent it in the form

$$f(x(t), u, \lambda) = \psi(x(t)) + \alpha(t)u(t) + \lambda(t).$$

A polynomial relationship

$$x(t + \tau) = P(x(t - j\tau); u(t - k\tau)) \quad (2)$$

1/2

USSR

BOYCHUK, L. M., DUBROVIN, O. F., Tekhn. kibernetika. Vyp. 2, Kiev, 1970, pp 43-52

is sought between the values of the output at the time  $t + \tau$  and the values of the input-output at previous times  $t - j\tau$  and  $t - k\tau$  ( $j = 0, 1, \dots, r$ ;  $k = 0, 1, \dots, l$ ), where  $r$  and  $l$  are given: i.e., there is proposed an approximate polynomial description (2) of the operation of a dynamic object (1). The problem of evaluating the error of the method is discussed. V. Demidovich.

2/2

- 3 -

Acc. Nr: AP0044023

**DUBROVIN S.A.**

Ref. Code: UR 0240

PRIMARY SOURCE: Gigiyena i Sanitariya, 1970, Nr 2, pp 52-56

EXPERIMENTAL STUDY OF SHORT-LIVING DAUGHTER  
PRODUCTS OF RADON IN THE RESPIRATORY TRACT

V. N. Kirichenko, Dzh. G. Khachirov, S. A. Dubrovina,  
Klyuch, V. Ye.; Bykhovskiy, A. V.

One should know the nature of the isotopes distribution in order to assess the dosage load on basal cells of the bronchial epithelium in different lengths of the respiratory tract following inhalation of radon and of its daughter products. Experimental investigations carried out with the aid of a specially elaborated method of direct alpha-spectrometry of the mucosa of bronchial epithelium of dogs and rabbits. These data enable dosage loads on the basal cells of the bronchial epithelium to be measured more exactly when the air containing RaA, RaB, RaC and RaC' isotopes is inhaled by experimental animals.

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REEL/FRAME  
19770460

2 42h

USSR

UDC 621.372.826

MIROVITSKIY, D. I., DUBROVIN, V. F., and BASKAKOV, V. V.

"Cophased Surface-Wave Directional Couplers Based on Dielectric Waveguides"

Moscow, Antenny, No 12, 1971, pp 65-76

Abstract: The article outlines results of work on devising and employing rectangular polystyrene waveguides as three-way and four-way surface wave line junctions in symmetrical and asymmetrical microwave configurations. These elements have certain advantages over metallic waveguides and strip lines in the less accessible submillimeter and infrared wavelengths, as well as in the centimeter and millimeter ranges, but there are special power transmission features which cannot be explained by the usual procedures for metallic components: An effective directional coupling of power from the main waveguide into the side waveguide occurs over a  $\pm 20\%$  frequency range in a coupling region approximately a (dielectric) wavelength long, and the coupled wave is in phase with the wave propagated in the main waveguide. The reasons for this phenomenon are interpreted, experimentally corroborated, and graphically displayed in terms of the directional radiation of power from a localized inhomogeneity in the waveguide, the relation between the amplitude-phase characteristics of the branched signal as a function of the

1/2

USSR

MIROVITSKIY, D. I., et al., Antenny, No 12, 1971, pp 65-76

angle at which the waveguides intersect, etc. After noting that their experimental data agrees well with later theoretical research for continuous transitions in open waveguides, the authors describe and plot properties of various cophased directional dielectric waveguide couplers and branching elements, including the losses in a three-way coupler in which power is transferred in a direction coinciding with the branch continuation, forming a fictitious branch, i.e., an area of free space. When two signals are simultaneously propagated from separate branches, their vector sum appears in the third branch and the coupler becomes an adder in which the various propagation, phase, and amplitude properties can be investigated. Moreover, if the applied signals are in phase, symmetrical and weakly directed radiation can undergo a directional phase shift at the waveguide intersection point. If special high-grade plastics and ceramics with 10-160 permittivity and lower losses are utilized, coupler dimensions, losses, and other properties can be substantially upgraded. A number of measuring instruments and testing units based on the above couplers have already been fabricated, and they show promise in several high-frequency applications, including use in multielement antenna feed devices.

2/2

- 10 -



USSR

UDC: 621.372.832:621.372.826.1

DUBROVIN, V. F., MIROVITSKIY, D. I., and OSIPOV, I. S.

"Directive Dividers Using Metal-Dielectric Waveguides"

Moscow, Antenny, No. 9, 1970, pp 72-80

Abstract: The beneficial characteristics of H waveguides provided the inspiration for the authors' researches of broadband elements used in uhf techniques for such devices as two and multi-channel directive power dividers, directional couplers, hybrid and rotating connections, and the like. In the present article, the results of the development of a two-channel directive power divider using waveguides of metal and dielectrics are given. The fundamental  $H_{01}$  wave in the guide is very simply excited by a rectangular waveguide with an  $H_{10}$  wave. The considerations leading to the choice of the width for the waveguide's dielectric plate and its dielectric permeability are indicated, and the details of the branching method for the power division are discussed. Direct connection between the divided output paths of the instrument was eliminated by the introduction of an insulating partition made of an absorbing material of the M-1 type in the shape of a wedge, with a base of

1/2

USSR

DUBROVIN, V. F., et al., Antenny, No 9, 1970, pp 72-80

8 mm, an altitude of 56 mm, and a thickness of 4 mm, which had the effect of sharply improving the divider's characteristics. A photograph and drawings of the instrument are given.

2/2

- 172 -

USSR

UDC: 621.372.853.1.09

MIROVITSKIY, D. I., DUBROVIN, V. F., VZYATYSHEV, V. F., PERSIKOV, M. V.,  
SHEVCHENKO, V. V.

"Cophased Directional Coupling of Electromagnetic Energy in Lines with Delayed Waves"

Moscow, Radiotekhnika i Elektronika, Vol 16, No 1, Jan 71, pp 37-40

Abstract: The authors describe the principal characteristics of the experimentally observed phenomenon of cophased directional coupling of energy in intersecting and branched dielectric waveguides. Energy transmission is characterized by the following peculiarities in such systems: 1. effective directional coupling is observed even when the section of interaction is of the order of a wavelength or less; 2. the coupled wave is in phase with the wave being propagated in the main channel; 3. effective energy coupling takes place when the coefficients of reflection from the region of line branching are small, which is observed when the wave delays are small in the lines; 4. effective directional energy transmission takes place over an extremely broad frequency range. A clear physical interpretation of the effect is given together with confirming experiments involving investigation of directional radiation of energy from a localized nonhomogeneity in the waveguide, an investigation of

1/2

USSR

MIROVITSKIY, D. I., et al., Radiotekhnika i Elektronika, Vol 16, No 1, Jan 71, pp 37-40

the amplitude-phase dependence of a signal coupled out into a side branch as a function of the angle of intersection, etc. Some of the areas where the observed effect can be utilized in SHF technology are pointed out. The authors thank B. Z. Katsenelenbaum for interest in the work and discussion of the results.

2/2

- 122 -

USSR

UDC: 621.372.832

DUBROVIN, V. F., MIROVITSKIY, D. I., OSIPOV, L. S., Moscow Institute of  
Radio Engineering, Electronics and Automation

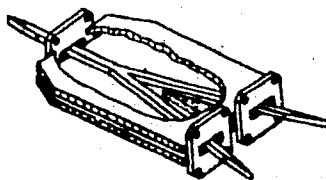
"A Power Divider"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,  
No 27, 1970, Soviet Patent No 279726, Class 21, filed 10 Mar 69, p 53

Abstract: This Author's Certificate introduces a power divider for super-high frequencies based on a metal-dielectric waveguide. As a distinguishing feature of the patent, the device is designed for directional division of SHF power over a wide frequency band while retaining high electrical insulation of the side branches without using additional unidirectional devices. The unit is made in the form of a one-piece metal-dielectric waveguide wye with an angle of  $18-20^\circ$  between the symmetric branches. The crossovers from the metal-dielectric to the standard waveguide in the symmetric branches are separated by an absorbing shield which may take the form of a wedge located on the bisector of this angle.

1/2

DUBROVIN, V. F. et al., Soviet Patent No 279726



2/2

- 131 -

USSR

UDC: 621.372.832-181.4

MIROVITSKIY, D. I., DUBROVIN, V. F., BASKAKOV, V. V.

"Hybrid Ring Connections Based on Dielectric Waveguides"

Moscow, Radiotekhnika i Elektronika, Vol 15, No 12, Dec 70, pp 2613-2615

Abstract: A hybrid cophased connector is proposed which is made in the form of a ring for purposes of miniaturization. The device is made of a rectangular dielectric waveguide with a cross section of 10 x 23 mm bent into a circle with a mean radius of 150 mm, the wider walls of the dielectric waveguide being perpendicular to the plane of the circle. The material is industrial polystyrene with a dielectric constant of 2.54 and a loss tangent of  $4.3 \cdot 10^{-4}$ . Laboratory tests of the connector showed that it operates satisfactorily in  $\pm 20\%$  of the frequency band (mean frequency 10 GHz); inherent losses are no more than 4.7 DB, and the VSWR at the output is no worse than 1.28. The size of the device can be further reduced by using high-frequency dielectrics which have lower losses. In principle, there are no restrictions on operation of these connectors in the submillimeter and optical ranges.

1/1

USSR

UDC: 621.396.67:624.97

BOL'SHUNOV, F. F., VANYUSHIN, V. N., DUBROVIN, V. F., DMITRIYEVSKIY, N. M.,  
POLINOV, Yu. S., REZNIK, A. P.

"Antenna-Mast Support"

USSR Author's Certificate No 266868, filed 10 Jun 68, published 3 Jul 70  
(from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1B102 P)

Translation: The proposed support consists of interconnected elements, a support framework mounted on a truck platform, an antenna with attached feeder channel, and mechanisms for folding and unfolding the support. To simplify folding and unfolding of the support, the feeder channel is made in the form of individual sections which are securely fastened to the elements of the mast and hinged together.

1/1



USSR

UDC 621.318.57:621.382

OVLASTYUK, V. Ya., DUBROVIN, V. I., Scientific Research Institute of Railway Transportation

"A Symmetric Flip-flop"

USSR Author's Certificate No 325963, filed 13 Jul 70, published 3 Mar 72  
(from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 9, Sep 72, Abstract No 9A35 P)

Translation: This Author's Certificate introduces a transistorized symmetric flip-flop with decoupling diodes in the input circuits. The device contains a count input capacitor and delay capacitors. In order to increase the resistance of the flip-flop to the effects of rf interference signals, the delay capacitors are connected in parallel with the emitter-base and emitter-collector junctions of the transistors, and the outputs of the count input capacitor are connected to the anodes of additional diodes whose cathodes are connected to the bases of the transistors. One illustration.

1/1

1/2 034 UNCLASSIFIED PROCESSING DATE--09OCT70  
TITLE--ON THE KINETICS OF PHOTOINDUCED CYTOCHROME CHANGES IN  
ECTOTHICRHODOSPIRA SHAPOSHNIKOVII CELLS -U-  
AUTHOR--(04)-RUBIN, L.B., DUBROVIN, V.N., ADAMOVA, N.P., SHVINAK, YU.I.  
COUNTRY OF INFO--USSR  
SOURCE--MIKROBIOLOGIYA, 1970, VOL 39, NR 2, PP 264-268  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--PHOTOSYNTHESIS, BACTERIA, CULTURE METHOD, LIGHT BIOLOGIC  
EFFECT, RESPIRATION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1983/1411 STEP NO--UR/0220/70/039/002/0264/0268  
CIRC ACCESSION NO--AP0054274  
UNCLASSIFIED

2/2 034

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0054274

ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. MAXIMAL PHOTOINDUCED ABSORBANCE CHANGES OF CYTOCHROMES AT 420 NM ARE OBSERVED IN ECTOTHIORHODOSPIRA SHAPOSHNIKOVII CELLS CULTIVATED UNDER ILLUMINATION OF LOW LIGHT INTENSITIES (10 PRIME3 ERG-CM PRIME2 SEC) AND AT THE LOGARITHMIC GROWTH PHASE. IN THE AGED CELLS THE AMPLITUDE OF A SIGNAL IS LOWER AND THIS EFFECT IS ACCOMPANIED BY CHANGES IN THE KINETICS OF CYTOCHROME REACTIONS: UNDER AEROBIC CONDITIONS NO ABSORBANCE CHANGES ARE OBSERVED WHILE IN DEAIRETED SUSPENSION THE FAST PHASE OF CYTOCHROME REDUCTION IS ABSENT. THE ADMINISTRATION OF ACETATE OR SULPHIDE RESULTS IN COMPLETE RESTORATION OF BOTH ANAEROBIC AND AEROBIC PHOTOINDUCED CHANGES OF CYTOCHROMES. IT SHOWS DEEP CONNECTIONS BETWEEN PRIMARY PHOTOSYNTHETIC REACTIONS AND PHYSIOLOGICAL STATE OF THE PURPLE BACTERIA CELLS.

UNCLASSIFIED

USSR

DUBROVIN, V. T., MOSKVIN, D. A., Veroyatnostn. metody i kiber-  
net., vyp. 9, 1971, pp 45-56

spect to each argument  $t_1, \dots, t_d$ , and which satisfies the fol-  
lowing properties: a)  $f(\bar{t})$  is integrable in the Lebesgue sense  
on  $\bar{\Omega}_d$ ; b)  $\int_{\bar{\Omega}_d} f(\bar{t}) d\bar{t} = 0$ ,  $\int_{\bar{\Omega}_d} f^2(\bar{t}) d\bar{t} < \infty$ , c) for certain constant  $A$  and  $\alpha > 0$

$|f(\bar{t}) - f(\bar{t}')| \leq A \|\bar{t} - \bar{t}'\|$ ,  $\bar{t}, \bar{t}' \in \bar{\Omega}_d$ , where  $\|\bar{t}\|^2 = t_1^2 + \dots + t_d^2$ ,

d)

$$\max_{1 \leq i \leq d} \sup_{0 < h \leq \delta} \int_{\bar{\Omega}_d} |f(t_1, \dots, t_{i-1}, t_i + h, t_{i+1}, \dots, t_d) -$$

$$- f(t_1, \dots, t_d)|^2 dt_1 \dots dt_d \leq A \left( \ln \frac{1}{\delta} \right)^{-2-\epsilon}.$$

where  $A$  and  $\epsilon > 0$  are constants.

Let us use the notation

$$F_n(x) = \text{mes} \left\{ \bar{t} : \bar{t} \in \bar{\Omega}_d, \frac{1}{\sigma \sqrt{n}} \sum_{k=1}^n f(\bar{t} W^k) \leq x \right\}.$$

2/4

USSR

UDC: 519.2

DUBROVIN, V. T., MOSKVIN, D. A.

"Concerning Distribution of Fractional Parts of One Class of Transformations of Euclidean Spaces"

Kazan', Veroyatnostn. metody i kibernet.---sbornik (Probability Methods and Cybernetics---collection of works), vyp. 9, Kazan' University, 1971, pp 45-56 (from RZh-Kibernetika, No 10, Oct 72, abstract No 10V53 by V. Petrov)

Translation: Let  $\Omega_d$  be a d-dimensional torus, and let  $\text{mes}(\cdot)$  be an invariant measure on it which, abstracting from the algebraic properties of  $\Omega_d$ , may be identified with the Lebesgue measure defined on the hypercube

$$\bar{\Omega}_d = \{\bar{t}: \bar{t} = (t_1, \dots, t_d), \quad 0 \leq t_1 \leq 1, \dots, 0 \leq t_d \leq 1\}$$

of d-dimensional Euclidean space  $R^d$ . Furthermore, let  $T$  be an endomorphism of the torus which conserves the measure given by the nondegenerate whole-number matrix  $W = \|w_{ij}\|$ . Finally, let  $f(\bar{t})$  be a real-valued function given on  $\bar{\Omega}_d$  which is periodic with re-

1/4

USSR

DUBROVIN, V. I., MOSKVIN, D. A., Veroyatnostn. metody i kiber-net., vyp. 9, 1971, pp 45-46

where

$$\sigma^2 = \lim_{n \rightarrow \infty} \int_{\Omega_d} \left( \frac{1}{V^n} \sum_{k=1}^n f(\bar{l} W^k) \right)^2 d\bar{l}.$$

On the assumption that the matrix  $W$  satisfies the condition  $\sup_{\|t\| \leq 1} \|\bar{l} W^{-1}\| = \theta < 1$ ,  $|\det W| = \rho > 1$ , the following statements are proved:

- 1) If there exists a limit  $\sigma^2 = \lim_{n \rightarrow \infty} \int_{-\infty}^{\infty} x^2 dF_n(x)$  and if  $\sigma^2 > 0$ , then

$$F_n(x) = \Phi(x) + O\left(\frac{1}{1 + |x|^{1-\epsilon}} \cdot \frac{\ln^{\frac{2+\alpha}{4\epsilon}} n}{n^{1/4}}\right).$$

- 2) Uniformly relative to  $x$

$$0 \leq x \leq O\left(\frac{n^{1/10}}{\omega(n) \ln^2 n}\right)$$

3/4

USSR

DUBROVIN, V. I., MOSKVIN, D. A., Veroyatnostn. metody i kiber-  
net., vyp. 9, 1971, pp 45-46

the relations

$$1 - F_n(x) = (1 - \Phi(x)) \left( 1 + O \left( \frac{(x+1) \ln^2 n}{n^{1/10}} \right) \right),$$

$$F_n(-x) = \Phi(-x) \left( 1 + O \left( \frac{(x+1) \ln^2 n}{n^{1/10}} \right) \right),$$

hold for large deviations, where  $\Phi(x) = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^x e^{-u^2/2} du$ , and the func-  
tion  $\omega(n)$  satisfies the condition  $\lim_{n \rightarrow \infty} \omega(n) = \infty$ . The given state-  
ments are also generalized by the authors to a certain class of  
"nonlinear" transformations of  $\bar{\Omega}_d$ .

4/4

- 16 -

USSR

UDC: 519.2

DUBROVIN, V. T.

"Large Deviations in the Central Limit Theorem for Sums of Functions of Weakly Dependent Random Quantities"

Kazan', Veroyatnostn. metody i kibernet.--sbornik (Probability Methods and Cybernetics--collection of works), vyp. 9, Kazan' University, 1971, pp 34-44 (from RZh-Kibernetika, No 10, Oct 72, abstract No 10V44 by V. Petrov)

Translation: A proof is given for some results on large deviations of the normalized sum  $\sum_{j=1}^n \xi_{jk}/\sigma \sqrt{n}$  (see abst 10V43).

1/1

- 8 -



USSR

UDC: 519.2

DUBROVIN, V. T.

"Central Limit Theorem for Sums of Functions of Weakly Dependent Random Quantities"

Kazan', Veroyatnostn. metody i kibernet.--sbornik (Probability Methods and Cybernetics--collection of works), vyp. 9, Kazan' University, 1971, pp 21-33 (from RZh-Kibernetika, No 10, Oct 72, abstract No 10V43 by V. Petrov)

Translation: Let  $\{a_n\}$  be a sequence of random quantities in the narrow sense which satisfies the I. A. Ibragimov condition of uniformly strong intermixing with exponentially decreasing mixing coefficient. Let  $\xi_n = f(a_n, a_{n+1}, \dots)$ ,

$$\xi_{nk} = E(f, a_n, \dots, a_{n+k-1}) \quad (n, k=1, 2, \dots),$$

$$E\xi_1 = 0, \quad E\xi_1^2 < \infty, \quad \sigma^2 = \lim_{n \rightarrow \infty} E \left( \sum_{j=1}^n \xi_{jk} / \sqrt{n} \right)^2 > 0.$$

Estimates are found for the rate of convergence as  $n \rightarrow \infty$  for the

1/2

- 7 -

USSR

DUBROVIN, V. T., Veroyatnostn. metody i kibernet., vyp. 9, 1971,  
pp 21-33

random quantity  $\sum_{j=1}^n \xi_{jk}/\sigma \sqrt{n}$  to normal distribution.

2/2

USSR

UDC 519.214

DUBROVIN, V. T., LADOKHIN, V. I., MOSKVIN, D. A.

"The Central Limit Theorem for Sums of Functions of Independent Quantities"

Uch. Zap. Kazan. Un-t. [Scientific Writings of Kazan' University], Vol 130, No 3, 1970, pp 28-40 (Translated from Referativnyy Zhurnal Kibernetika, No 3, 1971, Abstract No 3 V17 by Yu. Davydov).

Translation: A new proof is presented of two theorems on estimating the residual term in a central limit theorem for functions of independent random quantities, proven earlier by I. A. Ibragimov (RZhMat, 1968, 5V20).

1/1

- 2 -

UDC 619:616.981.51-036.21

USSR

BONDARENKO, G. F., POGREBANYAK, L. I., DUBROVIN, Ye. I., KHARCHUK, A. N., and SHEPCHENKO, V. U., Ukrainian Scientific Research Institute of Experimental Veterinary Science

"Some Problems of the Epizootiology of Anthrax"

Moscow, Veterinariya, No 6, Jun 73, pp 48-50

Abstract: In the period 1949-1970, the number of outbreaks of anthrax of farm animals, the incidence of anthrax among these animals, and the mortality rate of animals from anthrax decreased in the UkrSSR by factors of 11.1, 12.8, and 11.5, respectively. The incidence of anthrax of cattle increased from 57.2 to 73.8%, with the cattle owned by the population being affected to the principal extent, while that of sheep and goats decreased. Anthrax of hogs increased. The number of outbreaks of the disease and of the animals affected by it during the period under consideration were highest in the forest-steppe zone of the UkrSSR, being followed by the Steppe, Carpathian mountains and foothills, and forest zone, in that order. Of all identified stationary points unsatisfactory from the sanitary standpoint with respect to anthrax, 77.7% have been inactive for more than 11 yrs.

1/2

- 83 -

USSR

BONDARENKO, G. F., et al., Veterinariya, No 6, Jun 73, pp 48-50

The number of such points that were newly recorded decreased vs. 1946 by a factor of 25.7 on the average in 1966-1970 and by a factor of 40 in 1970. One of the conditions that contributes to the persistence of outbreaks is the presence of Bac. anthracis in the soil at locations of old cattle burying grounds. Research is being conducted on the isolation from infected soil of actinomycetes with a heightened antibacterial activity towards Bac. anthracis with the view of applying these actinomycetes for the decontamination of cattle burying grounds.

2/2

Stress Analysis and Stability Studies

USSR

UDC: 539.4

VOLKOV, S. D., DUBROVINA, G. I., Ural Polytechnical Institute, Sverdlovsk

"A Boundary Value Problem in the Mechanics of Brittle Fracture"

Kiev, Problemy Prochnosti, No 4, Apr 73, pp 48-52

Abstract: A mathematical model of a material is proposed in which external forces produce microstructural disruptions of continuity (microfissures in brittle fracturing). A closed system of equations of a boundary value problem in the mechanics of brittle fracture is derived for the proposed model. In the limiting special case where no damage has occurred, the equations of the boundary value problem become the known equations of the classical theory of elasticity of homogeneous isotropic or anisotropic bodies. A method is proposed for solving the boundary value problem of mechanics of brittle fracture of structural elements, assuming certain restrictions.

USSR

UDC 546.74'821'72'21:548.313

DUBROVINA, I. N., SHCHEPETKIN, A. A., and CHUFAROV, G. I., Institute of Metallurgy, Ural Scientific Center, Academy of Sciences USSR

"Peculiarities of Spinel Solid Solutions in the Ni-TiOFe-O System"

Moscow, Izvestiya Akademii Nauk SSSR, Neorganicheskiye Materialy, No 8, 1972, pp 1459-1464

Abstract: The conditions of synthesis, mutual solubility of components, magnetic properties, and crystallochemical peculiarities (placement of cations on lattice nodes) in the three-component system  $\text{NiFe}_2\text{O}_4$ - $\text{Fe}_3\text{O}_4$ - $\text{Fe}_2\text{TiO}_4$  were studied. It was concluded that full mutual solubility of the components in this system occurs. The parameters of the crystalline lattice of the ternary solid solution follows the additive rule with good accuracy. The concentration dependences of magnetic moment of saturation and Curie temperature of the binary system  $(\text{Fe}_2\text{TiO}_4)_c$  and certain ternary compositions were measured. The distribution of cations among octahedral and tetrahedral nodes of the spinel structure in the system was similar to the distribution produced additively from the distributions characteristic for the individual components.

1/1

1/2 014 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--DETERMINATION OF MOLECULAR WEIGHTS USING SEDIMENTATION, DIFFUSION,  
AND VISCOSITY DATA -U-  
AUTHOR--(03)-TIMOFEYEVA, G.I., DUBROVINA, L.V., MENSHOV, V.M.  
COUNTRY OF INFO--USSR  
SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970, 12(6), 1374-8  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--MOLECULAR WEIGHT, POLYESTER RESIN, FLUID VISCOSITY, DIFFUSION  
COEFFICIENT, SEDIMENTATION SEPARATION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3007/1014 STEP NO--UR/0459/70/012/006/1374/1378  
CIRC ACCESSION NO--AP0136441  
UNCLASSIFIED



2/2 014

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136441

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE DETN. OF THE MOL. WTS. OF POLYESTERS PREPD. FROM SEBACOYL DICHLORIDE AND PHENOLPHTHALEIN OR TEREPHTHALOYL DICHLORIDE AND 9,9-DIS(4, HYDROXYPHENYL)FLUOKENE BY THE COMBINED SEDIMENTATION VISCOSITY METHOD (P. I. FLORY, ET AL., 1952) GAVE MORE RELIABLE AND REPRODUCIBLE RESULTS THAN DETNS. BY THE VISCOSITY OR DIFFUSION METHODS. THE DIFFUSION COEFFS. AS DETD. BY CENTRIFUGING ARE SUBJECT TO CONSIDERABLE ERROR. FACILITY: INST. ELEMENTOORG. SOEDIN., MOSCOW, USSR.

UNCLASSIFIED

1/2 018 UNCLASS. PROCESSING DATE--18SEP70  
TITLE--PARAMETERS OF THE DEPENDENCE OF INTRINSIC VISCOSITY ON MOLECULAR  
WEIGHT FOR POLYARYLATES WITH ALIPHATIC SIDE GROUPS -U-  
AUTHOR--(05)-PAVLOVA, S.A., DUBROVINA, L.V., VINOGRADOVA, S.V., SALAZKIN,  
S.S., KORSHAK, V.V.  
COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(1), 69-71

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--INTRINSIC VISCOSITY, MOLECULAR WEIGHT, POLYARYL RESIN,  
POLYCONDENSATION, LIGHT DIFFRACTION, POLYMER STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1986/0254

STEP NO--UR/0460/70/012/001/0069/0071

CIRC ACCESSION NO--AP0102304

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0102304

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POLYARYLATE F-12-ST (I) AND POLYARYLATE F-12-ATS (II) (WHERE THE N SUBSTITUENT IS AC INSTEAD OF COC SUB17 H SUB35) WERE PREPD. BY INTERFACIAL POLYCONDENSATION BY A METHOD DESCRIBED EARLIER BY S. V. VINOGRADOVA, ET AL. (1965). THE INTRINSIC VISCOSITIES OF I AND II WERE MEASURED IN TETRAHYDROFURAN (III) AND CHCL SUB3 AT 20 PLUS OR MINUS 0.1 DEGREES, WHEREAS THE MOL. WTS. WERE MEASURED BY LIGHT DIFFRACTION IN A VISUAL NEPHELOMETER AT LAMBDA EQUALS 5461 A. CALCN. OF MARK HOUWINK PARAMETERS (ALPHA AND K FOR I AND II IN III WERE 1.14 AND 3.24 TIMES 10 PRIME NEGATIVE6, AND 0.80 AND 1.55 TIMES 10 PRIME NEGATIVE5, RESP.) SHOWED THAT ALPHA WAS PROPORTIONAL TO THE LENGTH OF THE ALIPHATIC CHAIN, WHICH WAS INCONSISTENT WITH DATA OBTAINED FROM POLYARYLATES HAVING AROMATIC SIDE GROUPS. THE CHANGE IN THE HYDRODYNAMIC BEHAVIOR WAS ATTRIBUTED TO HIGHER CHAIN RIGIDITY.

UNCLASSIFIED

1/2 024

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--RESULTS OF CLINICAL TRIALS OF THE DRUG HISTAGLOBULIN -U-

AUTHOR--(02)-QUBROVINA, N.A., KASHTANOVA, M.G.

CCOUNTRY OF INFO--USSR

SCURCE--VRACHEBNOYE DELU, 1970, NR 5, PP 82-83

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DRUG TESTING, PROTEIN, GAMMA GLOBULIN, BLOOD SERUM, ALLERGIC DISEASE, RESPIRATORY SYSTEM DISEASE, LUNG, CORTICOSTEROID

CCONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FKAME--3002/1914

STEP NO--UR/0475/70/000/005/0082/0083

CIRC ACCESSION NO--AP0129263

UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129263

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SOVIET PREPARATION HISTAGLOBULIN IS A HISTAMINE FIXED ON THE PROTEIN GAMMA GLOBULIN FRACTION. INTRODUCED INTO THE ORGANISM IT FAVORS AN INCREASE OF THE PROTECTIVE PROPERTIES OF THE BLOOD SERUM OF PATIENTS SUFFERING OF ALLERGIC DISEASES. CLINICAL TRIAL IN 60 PATIENTS PROVED THE EFFICIENCY OF HISTAGLOBULIN IN ALLERGIC FORMS OF BRONCHIAL ASTHMA. IN PATIENTS WITH BRONCHIAL ASTHMA AT THE BACKGROUND OF PULMONARY PATHOLOGY, HISTAGLOBULIN MAY BE USED IN COMPLEX WITH OTHER DRUGS. HISTAGLOBULIN WAS INEFFICIENT IN ASSOCIATION WITH CORTICOSTEROIDS. THE DRUG IS WELL TOLERATED AND CAUSES NO SIDE EFFECTS. FACILITY:  
GEMOTERAPEVTICHESKAYA KLINIKA I EKSPERIMENTAL'NO-PROIZVODSTVENNAYA  
LABORATORIYA, LENINA INSTITUTA GEMATOLOGII I PERELIVANIYA KROVI.

UNCLASSIFIED

1/2 017

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PROCESSING DATE--30OCT7

TITLE--USE OF A ROTATING RING DISK ELECTRODE METHOD TO STUDY THE CATHODIC  
REDUCTION OF OXYGEN IN DIMETHYLFORMAMIDE SOLUTIONS -U-

AUTHOR--(04)--NEKRASOV, L.N., DUKHANOVA, L.A., DUBROVINA, N.I., VYKHODTSEVA  
L.N.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(3), 388-90

DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ELECTROLYTIC REDUCTION, OXYGEN, FORMIC ACID, AMIDE, GOLD,  
METAL ELECTRODE

CONTRCL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--2000/0653

STEP NO--UR/0364/70/006/003/0388/0390

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PROCESSING DATE--30OCT7

CIRC ACCESSION NO--AP0124325

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROCESS OF O ELECTROREDN. IN APROTIC MEDIUM WAS STUDIED BY USING THE EXAMPLE OF CATHODIC O REDN. IN HCONME SUB2 SOLNS. NAD A ROTATING RING DISK ELECTRODE AND AMALGAMATED AU. THE SUPPORTING ELECTROLYTES WERE THE ANHYD. SALT ET SUB4 NCLO SUB4 AT A CONCN. OF 0.1N AS WELL AS NH SUB4 NO SUB3 AT A CONCN. OF 0.5N. THE POLARIZATION CURVE OF O ELECTROREDN. SHOWED 2 WAVES OF SIMILAR HEIGHT, EACH CORRESPONDING TO THE ASSOCN. OF 1 ELECTRON. THE INITIAL STAGE OF THE REACTION INVOLVED THE FORMATION OF A RELATIVELY STABLE MO. O SUB2 PRIME NEGATIVE WITH SIMILAR TO 100PERCENT YIELD. THE NATURE OF PROCESSES IN THE RANGE OF THE 2ND WAVE, I.E. IN THE 2ND PHASE OF THE O REDN., WAS NOT DETD. COMPLETELY AND NEEDS ADDNL. STUDIES.  
FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 628.1.034:628.175:628.3

RADTSIG, V. A., DUBROVINA, O. G., and KRASNOSHCHEKOVA, YE. S.

"Selection of Neutralization Mode of Iron-Containing Waste Water"

Sb. nauchn. tr. Leningr. inzh.-stroit. in-t, (Collected Scientific Works of Leningrad Engineering-Construction Institute), No 59, pp 141-148, 1969, (Translated from Referativnyy Zhurnal Khimiya, No 3, Vol 2, 10 Feb 70, Abstract No 3 I504)

Translation: The results of investigation of the operation of neutralizing installations showed that the neutralization of acid iron-containing waste wash water from the etching of metals with iron concentrations up to 800-1,000 mg/l should be performed separately from the neutralization of highly concentrated spent etching solutions. The pH of the iron-containing acid waste waters, neutralized with lime, should be between 8.5 and 9.0. Mixing of reagents with the spent waste water should be transported for further processing in open trenches. Neutralization installations should include reaction chambers in which the waste waters remain for 30-40 minutes, equipped with a system for input of compressed air. In order to increase the settling rate and decrease the moisture content of the sediment formed, it is recommended that polyacrylamide or various weighting compounds

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DUBROVINA, V. D.

POLYCLINIC AND HOSPITAL CARE REQUIREMENTS OF THE POPULATION OF MOSCOW

Article by V. D. Dubrovina, V. A. Fedotina, V. D. Dubrovina, I. E. Zolotarev, V. A. Semashko, All-Union Scientific Research Institute of Social Hygiene and Public Health Organization, Moscow, U.S.S.R., Moscow, U.S.S.R., Sovetskoye Zdravookhraneniye, Russian, No 1, 1973, Abstracted 8 August 1973, pp 23-29

UDC: 363.11+362.131.1  
(470.311):65.012.2

The requirements of the population of Moscow with regard to polyclinic and hospital care were determined by the All-Union Scientific Research Institute of Social Hygiene and Public Health Organization, Soviet N.A. Semashko in collaboration with the Main Administration for Public Health of the Moscow Municipal Executive Committee in 1969-1971, in accordance with a decision made by the board of the USSR Ministry of Health on 15 May 1967, using a method of investigation approved by the Institute's scientific council.

Data pertaining to the methodological approaches to determining the medical care requirements of the inhabitants of Moscow and some preliminary data of this investigation have been published previously\*.

Our objective was to supply recommendations as to the demand referable to the population of Moscow and a specific type of care, on the basis of our previous studies to determine the requirements of urban population in polyclinic and hospital medical care, by means of standardizing the norms of supplying such care, as related to the age and sex structure; we also wanted to determine the scope of polyclinic and hospital care received by nonresident patients in the public health institutions of Moscow.

We determined the medical care requirements of permanent residents of Moscow using the standardization method. The indices of

\*"Methodological Approaches to Determination of Polyclinic and Hospital Care Demand of the Residents of Moscow," Sovetskoye Zdravookhraneniye, No 9, 1971.

JRS 58375

21 Feb 73



1/2 025 UNCLASSIFIED PROCESSING DATE--09OCT70  
TITLE--EFFECT OF ALGINIC ACID ON THE DEPOSITION OF SR PRIME90 AND CA  
PRIME4 IN THE BODY IN CASE OF THEIR LONG INTAKE -U-  
AUTHOR--(02)-DOLMATOVA, M.YU., DUBROVINA, Z.V.  
COUNTRY OF INFO--USSR  
SOURCE--GIGIYENA I SANITARIYA, 1970, NR 3, PP 40-43  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--STRONTIUM ISOTOPE, CALCIUM ISOTOPE, RADIATION BIOLOGIC EFFECT,  
RADIATION PROPHYLAXIS, RAT, BROWN ALGAE, ORGANIC ACID  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1982/0653 STEP NO--UR/0240/70/000/003/0040/0043  
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PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0052113

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A LONG TERM EXPERIMENT CARRIED OUT OVER ADULT RATS SHOWED ALGINIC ACID TO HAVE A HIGH PROTECTING EFFECT AGAINST THE ACTION OF RADIOACTIVE STRONTIUM. HOWEVER, THIS EFFECT DIMINISHED EVENTUALLY. ALGINIC ACID WAS NOTED TO AFFECT SELECTIVELY RADIOACTIVE STRONTIUM IN COMPARISON WITH CALCIUM.

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